

To: editor@silvertonstandard.com[editor@silvertonstandard.com]
From: Peterson, Cynthia
Sent: Fri 4/10/2015 9:33:23 PM
Subject: Aerial Spectroscopy

Hi, Mark.

We have done some research on a question you posed to us regarding aerial spectroscopy in Colorado. Specifically, you asked if photos such as the aerial spectroscopy image of Silverton had been taken in Durango, Telluride and Ouray.

We have consulted with the State and the US Geological Survey. According to the USGS, the following studies have been done in Colorado:

- Rockwell, B.W., 2013, Comparative mineral mapping in the Colorado Mineral Belt using AVIRIS (Airborne Visible/Infrared Imaging Spectrometer) and ASTER remote sensing data: U.S. Geological Survey Scientific Investigations Map 3256, 8 p. pamphlet, 1 map sheet, scale 1:150,000. Available at <http://pubs.usgs.gov/sim/3256/>.

- Rockwell, B.W., 2012, Description and validation of an automated methodology for mapping mineralogy, vegetation, and hydrothermal alteration type from ASTER satellite imagery with examples from the San Juan Mountains, Colorado: U.S. Geological Survey Scientific Investigations Map 3190, 35 p. pamphlet, 5 map sheets, scale 100,000. Available at <http://pubs.usgs.gov/sim/3190/>.

- Rockwell, B.W., 2013, Automated mapping of mineral groups and green vegetation from Landsat Thematic Mapper imagery with an example from the San Juan Mountains, Colorado: U.S. Geological Survey Scientific Investigations Map 3252, 25 p. pamphlet, 1 map sheet, scale 1:325,000. Available at <http://pubs.usgs.gov/sim/3252/>.

- Swayze, G.A., K.S. Smith, R.N. Clark, S.J. Sutley, R.N. Pearson, G.S. Rust, J.S. Vance, P.L. Hageman, P.H. Briggs, A.L. Meier, M.J. Singleton, and S. Roth, 2000, Using imaging spectroscopy to map acidic mine waste: *Environmental Science and Technology*, v. 34, no. 1, p. 47-54.

- Back in the late 1990s, the EPA funded AVIRIS flights over the Front Range. The flight lines cover from part of DIA, west to about the Continental Divide, and Rocky Mountain National Park, down to Fairplay. This is high altitude data with about 15 to 18 meters/pixel resolution. Some smaller areas have been covered with low altitude data, about 4 meters/pixel. There was never any funding to analyze the massive data set, so it remains unanalyzed.

Please feel free to contact me if you have any questions or would like more information.

Cynthia Peterson

Community Involvement Coordinator

Public Affairs and Community Involvement U.S. Environmental Protection Agency, Region VIII

1595 Wynkoop St. (8OC-PAI)

Denver, CO 80202-1129

303-312-6879 -- direct dial